



# PM FSS

UNITED STATES ARMY  
PRODUCT MANAGER  
FORCE SUSTAINMENT SYSTEMS



## Product Manager Force Sustainment Systems Overview

*Presented by:  
LTC Rick Harger*

## Report Documentation Page

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# PEO CS&CSS Portfolio & Organization



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## Deputy PEO

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**Deputy PEO ~ A, L, & T**  
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**Chief / Executive Officer**  
Ms. Linda Reichlmayr



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DPM: COL Jeffrey Carr

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Bridging  
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Handling Equipment  
LTC Darrell Bennis

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LTC Daryl Harger

Product Manager  
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Ms. Tina Bragg (Act)



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MRAP - All Terrain Vehicle  
LTC Coll Haddon

Product Manager  
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Product Manager  
MRAP Vehicle Systems  
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## Tactical Vehicles

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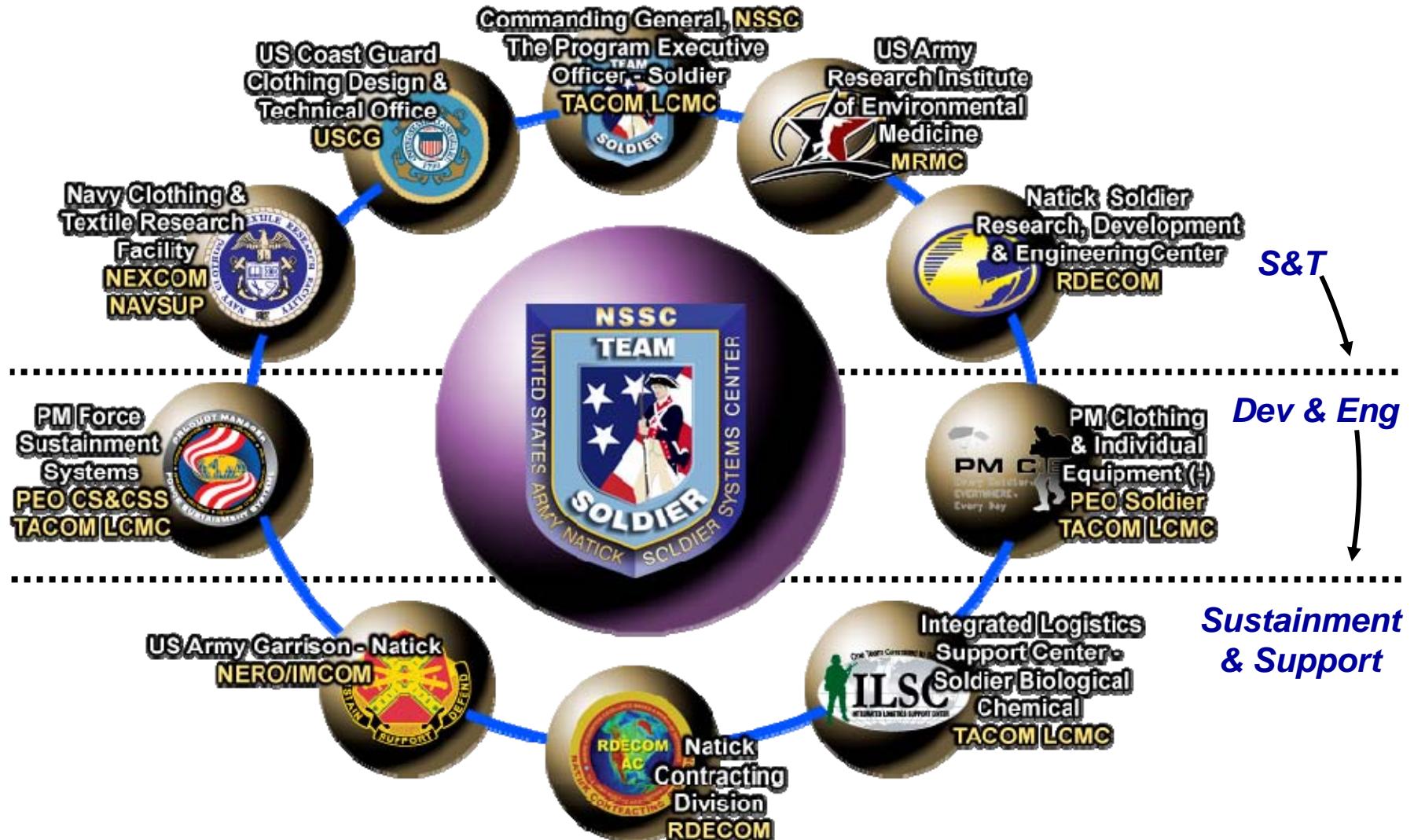
Product Manager  
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Product Director  
Armored Security Vehicles  
LTC Kent Moorhouse

# Where We Are Located



# What We Do



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# Who We Do It For:

## Principal Combat Developer Stakeholders

### Engineer Center



### Aviation Center



### Combined Arms Support Command

Mix & Match Modularity to Provide  
a Full Menu of Capabilities

### Quartermaster Center



### Chaplains' Center



### Ordnance Center





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## Cargo Aerial Delivery Systems

# LOW COST AERIAL DELIVERY SYSTEM (LCADS) One Time Use/Expendable Systems

- **LOW COST CONTAINER (LCC):**

- Reduces costs by at least 55% over current CDS
- 2,200 lb. load capacity
- Delivers serviceable load in 13-knot ground winds



- **Low-V & Hi-V:**

- Pre-packed by the manufacturer
- Simple design, easy to build, able to meet surge requirements
- Broad manufacturing base

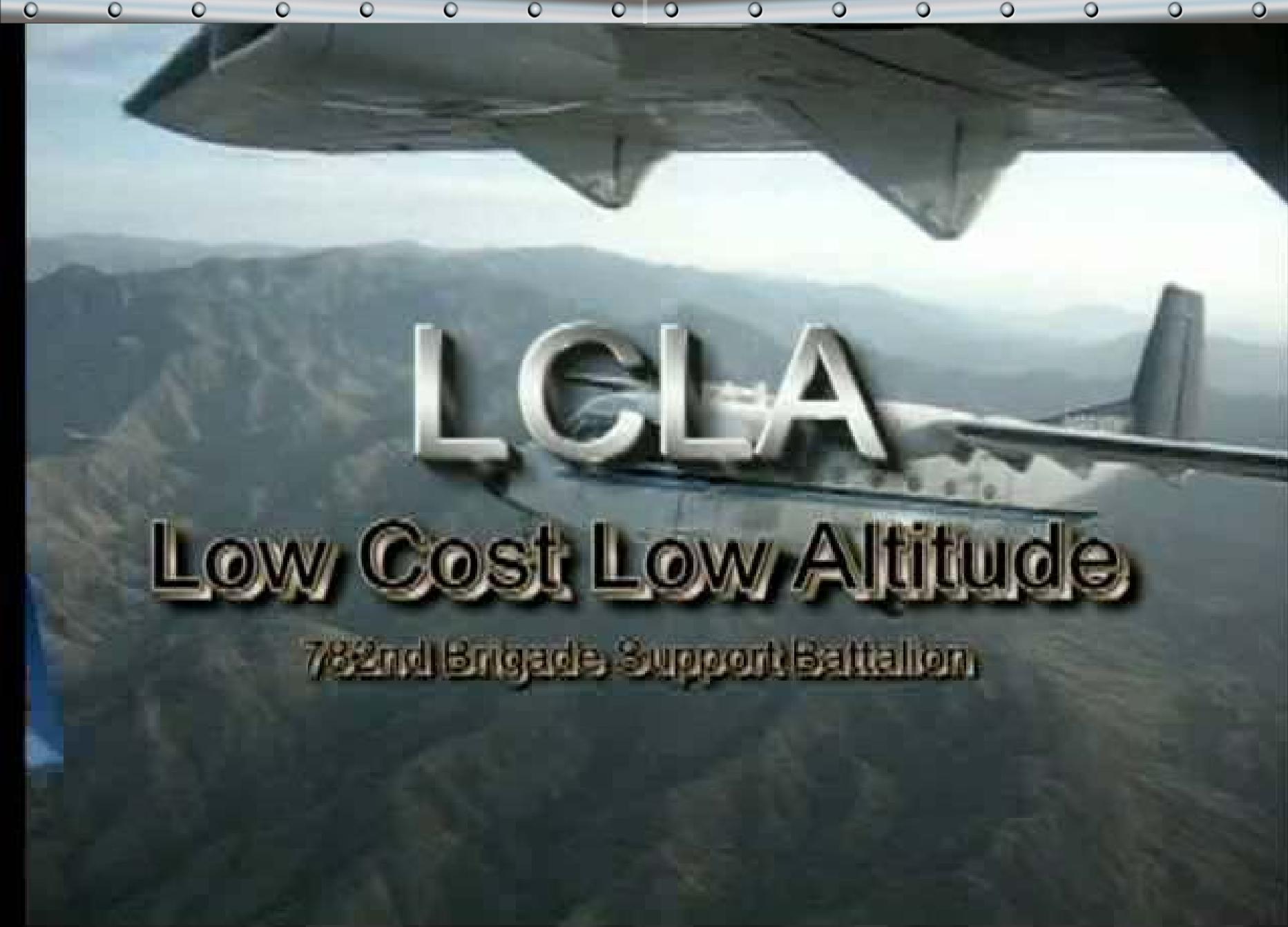


# LOW COST AERIAL DELIVERY SYSTEM (LCADS)

## One Time Use/Expendable Systems

- **LOW COST LOW ALTITUDE (LCLA) PARACHUTE:**
  - Designed to provide very low-altitude aerial re-supply capability to deployed units using small fixed wing and rotary wing aircraft.
  - Consists of the following four systems: T-10, T-10R, Single Cross, and Triple Cross Parachutes.
  - 80-450 lb rigged weight at 150-300 ft AGL





# LCLA

## Low Cost Low Altitude

732nd Brigade Support Battalion



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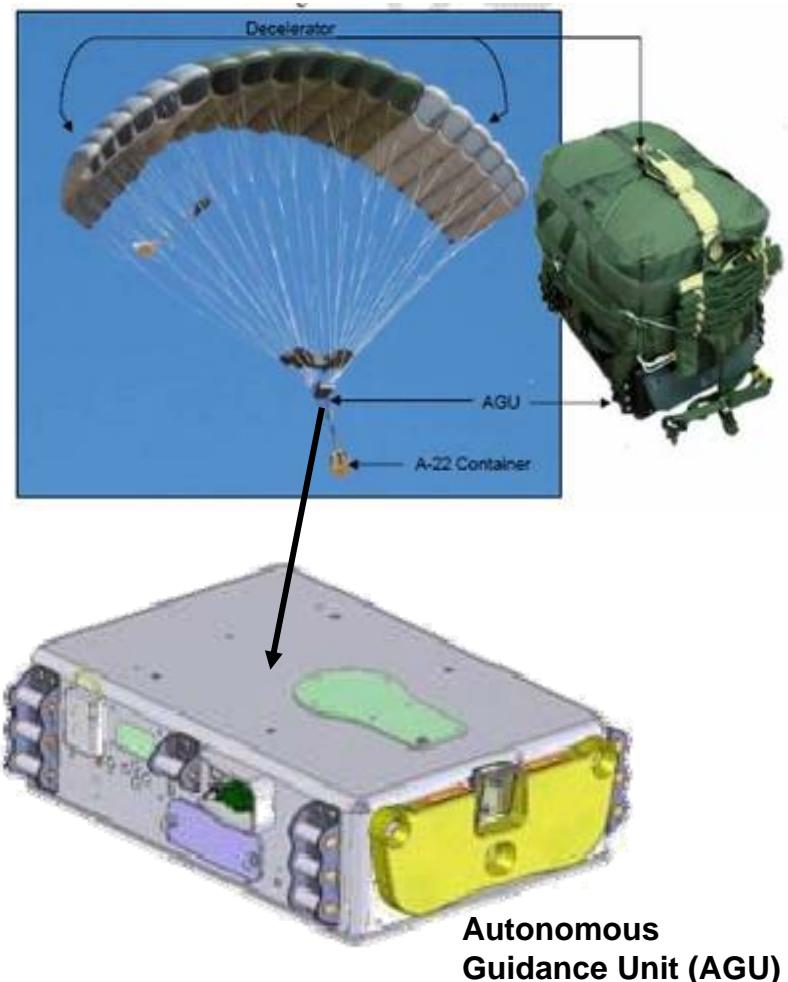
# JOINT PRECISION AIRDROP SYSTEM 2,400 lbs (JPADS 2K)

- **DESCRIPTION:**

- Autonomously navigates along a predetermined glide and flight path to accurately deliver supplies and equipment
- Gross rigged weight of 2,400 lbs.
- Two primary components: a decelerator and an Autonomous Guidance Unit (AGU), which interface with the USAF JPADS mission planner

- **STATISTICS:**

- Weight – 150 lbs.
- Max Payload – 2,400 lbs
- Release Altitude – 5,000-25,000 ft
- Surface Area – 1025 ft<sup>2</sup>
- Offset – 8kms (T) 25kms (O)



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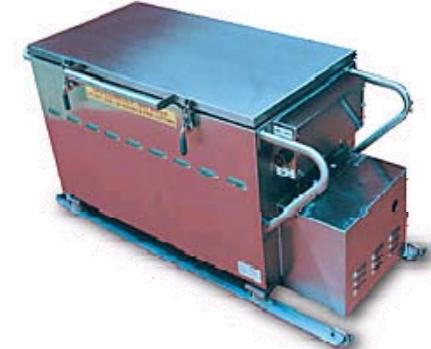
## Field Feeding Systems

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# ASSAULT KITCHEN (AK)

- **Description:**

- Replaces KCLFF
- Integrated Into HMMWV Trailer
- Tray Ration Heater Cooks on the Move
- Minimal Setup Time
- Feeds 60% Faster than KCLFF
- Uses 33% Less Fuel
- Uses 80% Less Water
- Fielding : Ongoing



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# CONTAINERIZED KITCHEN (CK)

- **Description:**

- Expandable 20' Container
- Dual Axle Chassis Trailer
- Replaces 2 MKTs
- Feeds Up To 800 Meals 3x Per Day
- On Board Power, Water, Ventilation And Environmental Control
- Appliances Include Convection Oven And Tray Ration Heater
- Fielding: Ongoing





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## Field Services Systems

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# LAUNDRY ADVANCED SYSTEM (LADS)

- **Description:**

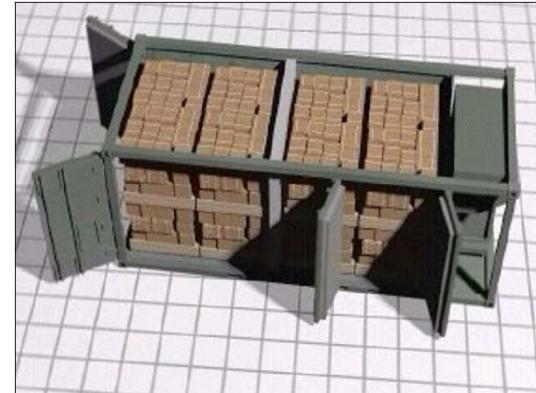
- Water Based Mobile Laundry
- Processes 500 Soldiers Worth of Laundry per Day
- Dry To Dry Process
- Only Uses 500 Gallons Of Water per Day – Recycles 97%
- Produces Only 40 Gallons Of Waste Water per Day
- Fielding Ongoing



# Multi-Temp Refrigerated Container System (MTRCS)

- **Description:**

- Simultaneous transport and storage of frozen , chilled rations
- Two individually temperature controlled compartments on the move
- Feeds 800 people for 3 days
- Self powered or commercial 440/220 V
- LRIP approved – in production



# MOBILE INTEGRATED REMAINS COLLECTION SYSTEM (MIRCS)

- **Description:**

- Mobile Mortuary Processing Facility
- 8×8×20 Expandable Shelter
- Refrigerated Storage for 16 Remains
- On-Board Power Generation
- Environmentally Controlled Processing Area
- First Unit Equipped Projected For Jan 2010





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## Shelter Systems

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# Soft Wall Shelters

## Standard Army Approved Tents

### Fully Tested, Supportable and Warfighter Approved Systems

- **Lightweight Maintenance Enclosure (LME)**
  - NSNs Type I (Green), 8340-01-456-3637; Type I (Tan), 5410-01-512-6865
  - Type II (Green), 5410-01-512-6867; Type II (Tan), 5410-01-512-6868
  - **Purpose/Use:** Lightweight mobile repair facility for track & wheeled vehicles
  - **Dimensions:** 32'L x 24'W x 13.75' Door height to 15' Ridge height
  - **LIN** T49947



- **Modular General Purpose Tent System (MGPTS)**
  - Pole Supported (TY I)
  - NSNs:
    - Type I Small, 8340-01-456-3633 (Green), 8340-01-491-1507 (Tan)
    - Type I Medium, 8340-01-456-3628 (Green), 8340-01-491-1515 (Tan)
    - Type I Large, 8340-01-456-3674 (Green), 8340-01-491-1479 (Tan)
  - **Purpose/Use:** Billeting and Field Services
  - **Dimensions:** All MGPTS configurations are 18 feet wide, 7 feet high at the top of the sidewall, and 11.5 feet high at the peak. The Small is 18 feet long, Medium is 36 feet long and the Large is 54 feet long. Can be extended in 18 foot increments by adding intermediate modules.



- **Soldier Crew Tent (SCT)**
  - Frame Supported – one-piece shock-corded together
  - **NSNs:**
    - Type I (Green/Tan), 8340-01-359-0084
    - Type II (Green/White), 8340-01-359-1481
  - **Purpose/Use:** Quickly erected tent for combat vehicle crews
  - **Dimensions:** The SCT is 53 inches high, 11ft W x 11ft L.



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Soft Wall Shelters  
Standard Army Approved Tents  
Fully Tested, Supportable and Warfighter Approved Systems

- **Modular Command Post System (MCPS)**

- **Type of Shelter:** Frame supported
- NSNs
  - Type I Green, 8340-01-323-2454;
  - Type I Green (Without Lights, Map boards, Tables), 8340-01-459-8172
  - Type I Tan, 8340-01-334-7529;
  - Type I Tan (Without Lights, Map boards, Tables), 8340-01-459-8167
  - Type III Green, 8340-01-528-4188; w/liner
  - Type III Tan, 8340-01-528-8210; w/ liner
- Dimensions : 11'L x "11' W x 7'H to 9'H (eave to peak)



- **Ultra lightweight Camouflage Net System (ULCANS)**

- ULCANS utilizes a snag-free design and is capable of use in all types of weather and climatic conditions except in heavy snow and in winds greater than 46 MPH.
- NSNs
  - Type IV Woodland Radar Scattering (R/S), 1080-01-457-2956
  - Type IV Desert Radar Scattering (R/S), 1080-01-475-0696
  - Type III Woodland Radar Transparent (R/T), 1080-01-475-0697
  - Type III Desert Radar Transparent (R/T), 1080-01-475-0694



Soft Wall Shelters  
Standard Army Approved Tents  
Fully Tested, Supportable and Warfighter Approved Systems

- **Tent, Extendable, Modular Personnel (TEMPER)**
  - Type of Shelter: Frame Supported
  - NSNs: 32+ in either Green or Tan
    - TY IV Personnel, Green 8340-01-196-6272
  - Purpose/use: Field feeding, Medical facility, billeting
  - Dimensions: 8'L x 20' W x 10' ridge height
    - Can be extended in 8 ' increments
- **Tent, Extendable, Modular Personnel (TEMPER)**
  - Type of Shelter: Air Beam Supported
  - NSNs: 17 Types of air beam supported TEMPERs in either Green or Tan
    - Type XXXI NSN 8340-01-558-4701 (Tan); NSN 8340-01-559-3852 (Green)
    - Type XXXII NSN 8340-01-559-3853 (Tan); NSN 8340-01-559-3851 (Green)
  - Purpose/use: Field feeding, Dining, billeting, Force Provider
  - Dimensions: 8'L x 20' W x 10'11"H



# FIELD HEATERS (Powered)

- **Large Capacity Field Heater (LCFH)**
  - Self Powered, 400-450K BTU heating
  - 650 lbs, operates down to -60F
  - Onboard diagnostics, remote control operation, co sensors, increased reliability & efficiency
  - Std heater for Large Area Maintenance Facilities
  - Replaces 400K BTU Herman Nelson heater
- **Improved Army Space Heater (IASH)**
  - Replacement for ASH with improved safety & reliability
  - Operates on 3KW generator
  - MTOE item, reclassified as class II (OMA funded) in FY06
  - Deployable Medical System (DEPMEDS)
  - Laundry Advanced System (LADS)
  - Force Provider



# FIELD HEATERS (Non-Powered)

- **H-45 Space Heater**

- NSN 4520-01-329-3451, 18" Dia x 24"H, 65 lbs., 45K BTUH
- APPLICATIONS: GP, MGPTS, MCPS, TEMPER
- FUEL: Multi-Liquid & Solid Fuel



- **Space Heater Arctic**

- NSN 4520-01-444-2375, 17"L x 9"W x 17"H, 41 lbs., 25K BTUH
- APPLICATIONS: 5 Man Arctic, 10 Man Arctic
- FUEL: Multi-Liquid & Solid Fuel



# FIELD HEATERS (Non-Powered)

- **Space Heater Small**

- NSN 4520-01-478-9207, 16" L×9" W×14" H,  
32 lbs., 12K BTUH
- APPLICATIONS: Soldier Crew Tent
- FUEL: Multi-Fuel



- **Space Heater Convective 35K BTU**

- NSN 4520-01-431-8927, 40" L×14" W×18" H,  
74 lbs., 35K BTUH
- APPLICATIONS: MCPS
- FUEL: Multi-Fuel



- **Space Heater Convective 60K BTU**

- NSN 4520-01-520-6477, 48" L×17" W×19" H,  
98 lbs., 60,000 BTUH
- APPLICATIONS: GP, MGPTS, MCPS, TEMPER
- FUEL: Multi-Fuel



# FIELD HEATERS (Non-Powered)

- **Space Heater Convective 120K BTU (SHC 120k)**
  - THERMOELECTRIC generator, no external gen required
  - 400 lbs, operates down to -60°F, multi-fuel capability
  - Built in diagnostics, state of art safety & automatic operation
  - Future replacement for IASH
- **Thermoelectric Fan**
  - 4520-01-457-2790, 14" Dia x 10"H, 12 lbs.
  - Used with H-45 and Space Heater Arctic
  - No Fuel Used



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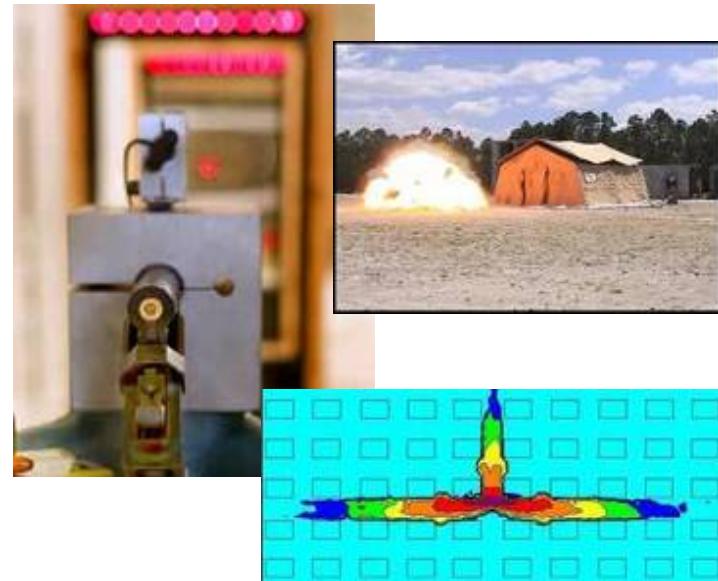
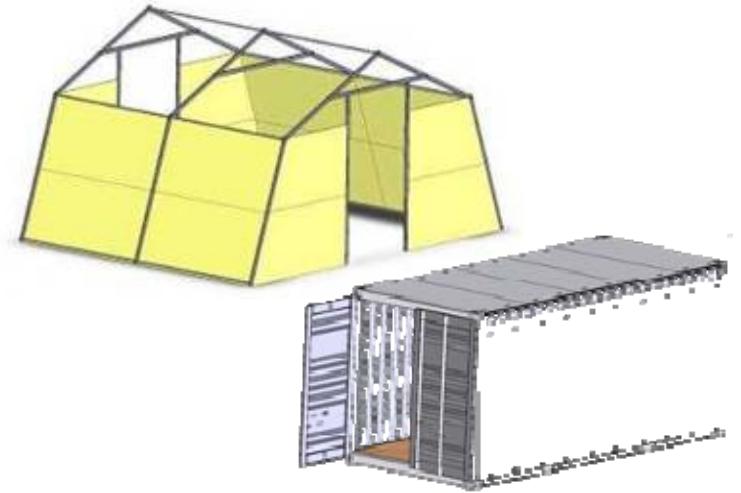


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# MODULAR BALLISTIC PROTECTION SYSTEM (MBPS)

The MBPS is a mobile, rapidly deployable, reusable armor system for expeditionary shelters. It is intended for situations where mobility, manpower, time, or logistical constraints preclude the use of heavyweight forms of protection like sandbag walls and concrete barriers.

While MBPS is not a direct replacement for heavier forms of force protection, it does provide protection from some fragmenting munitions and firearms, when alternative protection methods are limited.



# MODULAR BALLISTIC PROTECTION SYSTEM (MBPS)

- The MBPS has undergone a variety of testing to verify performance, including:
  - Right Circular Cylinder (RCC) Testing
  - Blast Survivability Testing
  - Arena Testing
  - Flame Testing
  - Durability and Transportability Testing
  - User Evaluation
  - Casualty Modeling
- Through an endorsement from the Rapid Equipping Force, the MBPS has been placed on an accelerated test track.
- The system has completed testing at the Army Test and Evaluation Command (ATEC)
- Technology Transition is planned for FY09.





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## Force Provider

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# FORCE PROVIDER EXPEDITIONARY SHOWER SYSTEM (ESS)

- Provides a clean environment for soldiers to shower w/privacy
- Set-up Time: **15** minutes with 2 personnel
- Allows 24 soldiers to shower per hour (10 minute shower)
- Onboard water heater
- Environmentally controlled
- Power requirements: 208V 3-phase
- Shipping Size: TRICON 8'H×8'W×6.5'L
- Weight: 6450lbs
- Containerized and pre-configured, facilitating movement by any combination of land, air, and sea



# FORCE PROVIDER EXPEDITIONARY LATRINE SYSTEM (ELS)

- Provides capability for latrine services for 75 soldiers with individual privacy and increased sanitation
- Set-up time, **15** minutes with 2 personnel
- TRICON container folds out to 18-feet in length
- 4-low water use toilets w/ privacy stalls
- Power Requirements:  
One 30kW generator/208V, 3-phase
- Shipping Size: TRICON 8'H×8'W×6.5'L
- Weight: 6060 lbs
- Highly mobile, weight less than 10K lbs, sling load, and forklift able



# EXPEDITIONARY TRICON KITCHEN (ETK)

- Provides 3 meals per day for a minimum of 150 personnel
  - UGRAs and limited “A” rations
- Set-up time, **30** minutes with 2 personnel
- Operated by two personnel
- Use all commercial off the Shelf Appliances (COTS)
- Power requirements: 208V 3-phase
- Shipping Size: TRICON 8'H x 8'W x 6.5'L
- Weight: 7350 lbs



# FORCE PROVIDER EXPEDITIONARY BATCH LAUNDRY (EBL)

- Provides capability to wash and dry 100 lbs of clothes per hour, in a clean and safe environment
- 1-50 lbs. washers/extractor
- 1-75 lbs. dryers (both industrial commercial grade)
- Completely self-contained
- Set-up time, **15** minutes with 2 personnel
- Modular/Scalable to meet any mission
- Power requirements: 208V, 3-PH power
- Shipping Size: TRICON 8'H×8'W×6.5'L
- Weight: 6930lbs



# FORCE PROVIDER TEMPER, AIR SUPPORTED

- The TEMPER, Air Supported shelters are completely integrated with floor, air plenum, and liners
- Sets up with four personnel in **12** minutes
- 55 MPH wind with gusts up to 65 MPH
- Will except all military HVAC systems
- Airbeams are low pressure (50 PSI) and does not require continuous air flow
- Can be complexed to meet any configuration



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# FORCE PROVIDER ALL ELECTRIC KITCHEN (FPEK)

- Provides for the preparation, cooking, sanitation, and serving of a minimum of 1800 "A" Rations per day
- Housed in two 3:1 ISO lightweight expandable containers
- Set up time, 1 hour with 4 personnel
- Integrated bail bar system for LHS compatibility, or forkliftable
- Compact, user friendly, efficient workflow design
- All kitchen equipment is integrated and secured within the containers during transport



# FORCE PROVIDER SHOWER WATER RE-USE SYSTEM (SWRS)

- Leveraged off existing proven technology from the Hospital Containerized Batch Laundry (CBL) and 1500 GPH Tactical Water Purification System (TWPS)
- Sets-up in **30** minutes with two personnel
- Captures 75-80% of the water the gray water used
- Filtration System
- 12,000 Gallons per Day capacity (40 GPM peak flow)
- Automated chlorine injection
- Saltwater RO membranes to remove organic materials, bacteria, virus and soap
- Power requirements: 208V, 3-phase
- Shipping Size: TRICON 8'H x 8'W x 6.5'L
- Weight: 7110 lbs
- System operational temperatures: -25°F to 140°F
- Unattended automatic operation, (7 days minimum w/out operator interaction)



# Force Provider 150 Man Set-Up



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# Strategic Initiatives

- Joint Expeditionary Basing Working Group
  - Acquisition (JEBWG-A)
- Joint Inter-Service Field Feeding (JIFF) Working Group
- System of Systems (SOS) Base Camp



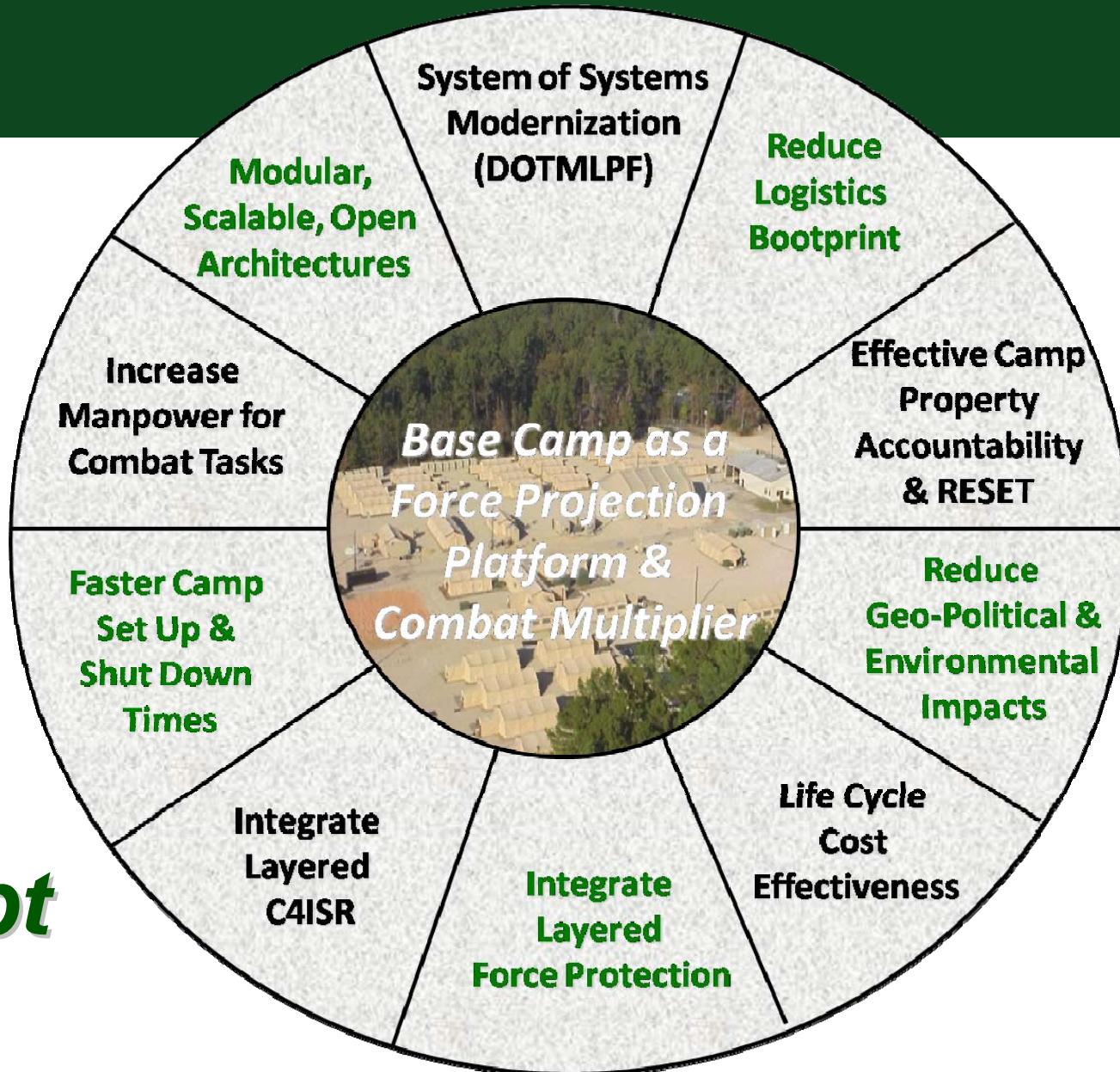
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# SOS Base Camp Concept



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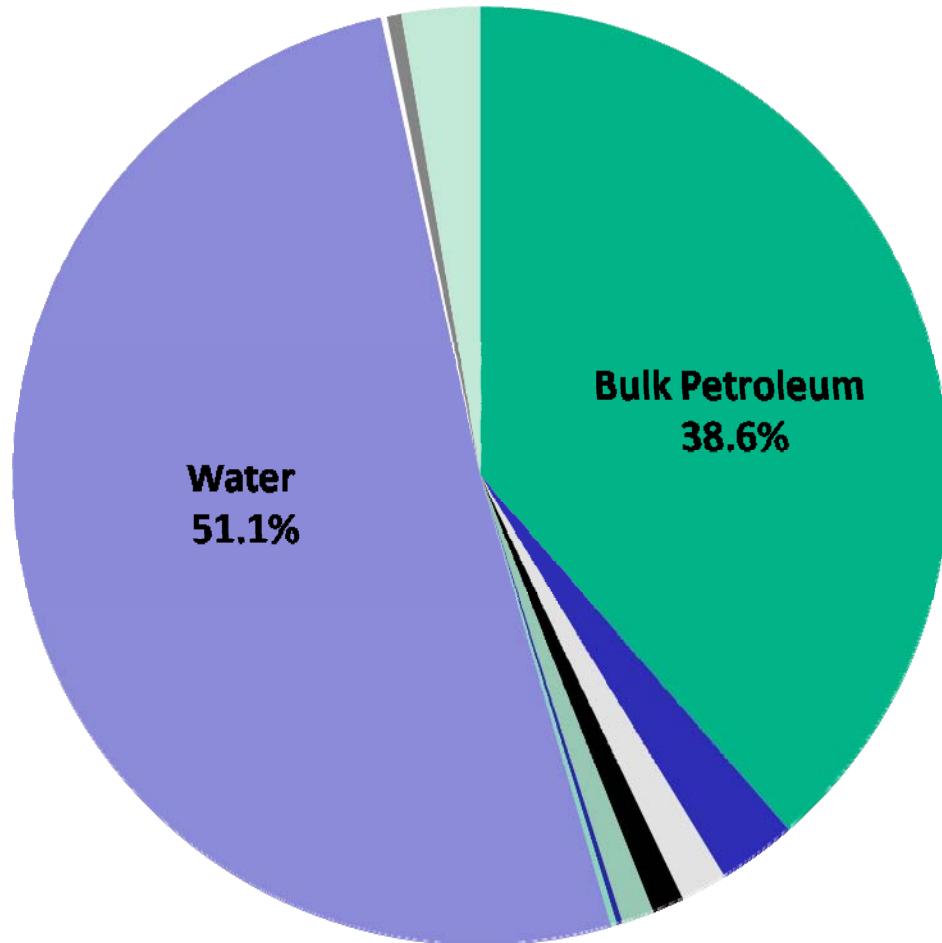
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# SOS Base Camp

- Three parallel Lines of Effort (LOE) that each address the full range of DOTMLPF
  - **LOE 1**
    - Base Camp solutions that can be employed and/or fielded to fill urgent needs in next 24 months (FY10-11)
  - **LOE 2**
    - Initial Base Camp system of systems (SOS) solutions that can be employed in next 5 years
    - Initial SOS Base Camp fielding that can begin in FY15
  - **LOE 3**
    - Objective Base Camp SOS solutions that can be employed in 5-10 years
    - Objective SOS Base Camp fielding that can begin in FY20

SOS  
Base Camp  
Systems  
Integration  
Lab (SIL)

# OIF Sample Distribution of Logistics Supply Types\*



- Bulk Petroleum
- Barrier Materials
- Ammunition
- Comfort Items
- Major End Items
- Repair Parts
- Medical
- Water
- Package Petroleum
- Clothing
- Food



\* AMSAA Analysis, 4<sup>th</sup> ID Iraq 2003



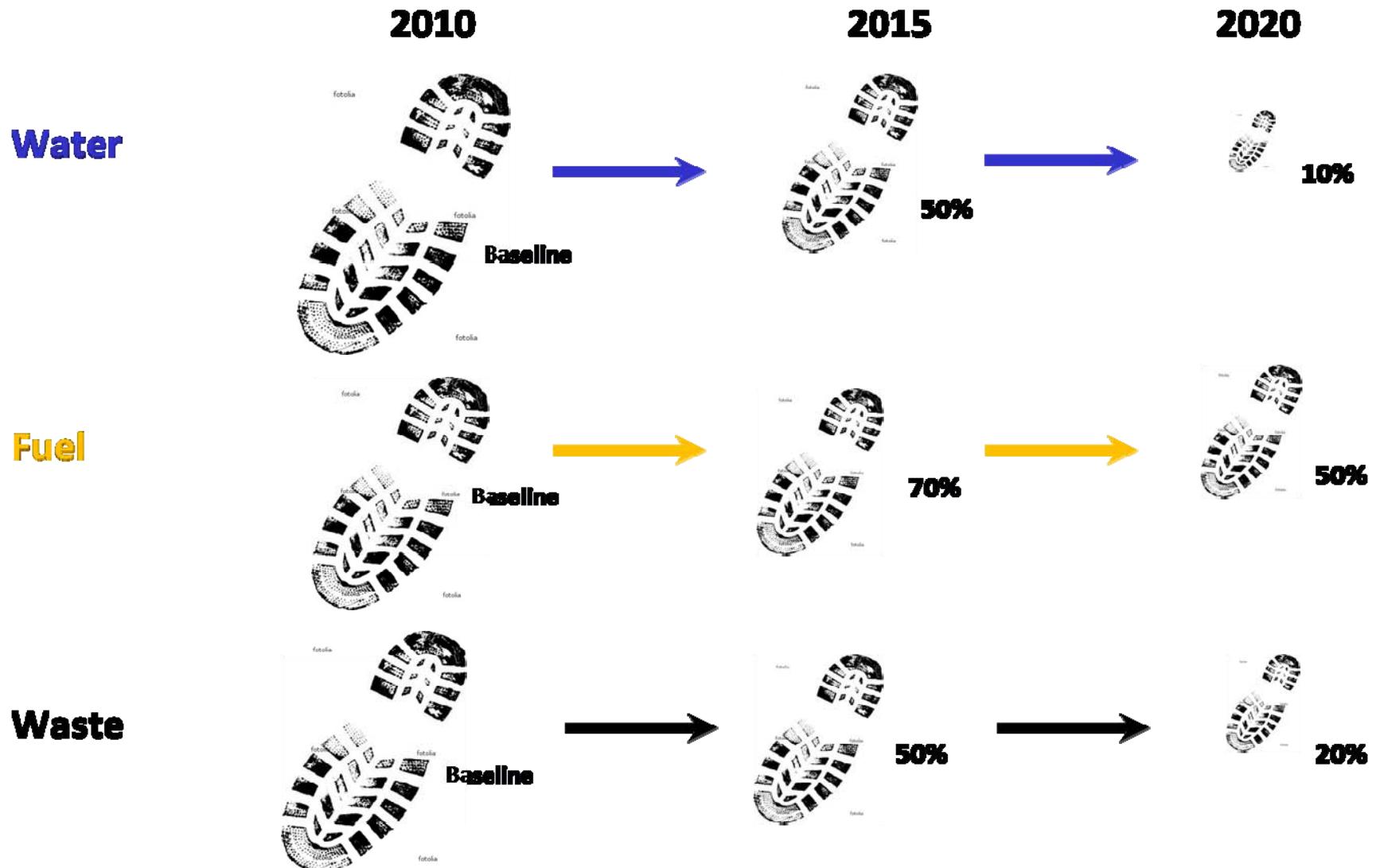
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# SOS Base Camp Logistics Bootprint Metrics





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# *Questions?*